To: Hoppe, Michael[Hoppe.Michael@epa.gov]; Vaughn, Stephanie[Vaughn.Stephanie@epa.gov]

Cc: Gary.Foster@CH2M.com[Gary.Foster@CH2M.com];

George.Hicks@CH2M.com[George.Hicks@CH2M.com];

 $Roger. McCready @CH2M.com[Roger. McCready @CH2M.com]; \ John \ Rolfe[jrolfe@demaximis.com]; \ A complete the complete that the complete$

Willard Potter[otto@demaximis.com]; Robert Law[rlaw@demaximis.com]

From: Stan Kaczmarek

Sent: Tue 9/24/2013 3:39:47 PM

Subject: RM 10 9 Dredging Volume Forecast

RM 10 9 Volume Forecast.pdf

Stephanie and Mike,

Attached is a technical memorandum that presents the basis for the original volume estimate provided in the Final Design documents as well as the basis for a new forecast volume estimate based on actual dredge volumes and in - situ conditions encountered during dredging.

While the project has always been described in public as a 20,000 cubic yard project, the design documents consistently indicated that actual dredge volume would fall in the range of 15,000 to 19,400 cubic yards. If there was no over- or under-dredging, the design indicated that a yield of 16,900 cubic yards could be expected.

However, barriers to production have been being encountered. In particular there are hard-pan areas that do not allow dredge cuts to design depths, and there are rock-stabilized slopes that are not only un-dredgeable by environmental buckets, but also seem to be devoid of significant soft sediment build-up. Taking these areas into account, CPG has revised its estimates for how much sediment will be removed by the end of dredging. The current expectation is that as little as 14,100 and no more than 16,900 cubic yards will be removed from the RM 10.9 Removal Area.

Please call me to discuss any of these findings.

Stan Kaczmarek, PE de maximis, inc. 186 Center Street, Suite 290 Clinton, NJ 08809 (O) (908) 735-9315 (C) (973) 978-9621